## AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

**LISTING OF CLAIMS**

1. (currently amended) A laser range finding apparatus, comprising:

an oscillator for producing a series of optical pulses having a controlled repetition rate;

an optical subsystem for receiving said optical pulses for passing therethrough a first portion of optical energy generated by said optical pulses to a target, and redirecting a second portion of said optical energy; and

a control subsystem responsive to said second portion of said optical energy for determining a repetition period between said optical pulses, and for applying a signal to said oscillator to adjust said controlled repetition rate~~; and~~ ,

~~wherein~~ said first portion of said optical energy [[is]] being reflected by said target back to said optical subsystem ~~and used~~ for use to control the generation of subsequent optical pulses from said oscillator in relation to a round trip time of flight of said optical pulses between said apparatus and said target, said time of flight being used to extrapolate a distance between said laser oscillator and said target.

2. (currently amended) The apparatus of claim 1, ~~wherein~~ said oscillator ~~comprises~~ comprising an optical relaxation oscillator.

3. (currently amended) The apparatus of claim 1, ~~wherein~~ said optical subsystem ~~comprises~~ comprising an optical beam splitter.

4. (currently amended) The apparatus of claim 1, ~~wherein~~ said control subsystem ~~comprises~~ comprising:

a photodetector responsive to said second portion of said optical energy for generating an electrical signal representative of said controlled repetition rate; and

a controller responsive to an output of said photodetector for generating said signals for adjusting said controlled repetition rate.

5. (original) A method for determining a distance to a target, comprising:

generating a plurality of relaxation oscillations having a controlled frequency;

using said relaxation oscillations to generate a series of optical pulses at a controlled repetition rate;

splitting optical energy generated by said optical pulses into first and second portions;

causing said first portion of optical energy generated by said optical pulses to be directed at said target spaced apart a distance from an apparatus generating said relaxation oscillations;

using said second portion of said optical energy to determine a repetition rate of said optical pulses;

using said determined repetition rate to adjust a repetition rate of subsequently generated optical pulses;

collecting at least a portion of said first portion said optical energy reflected from said target and using said collected optical energy to further control the generation of said subsequent relaxation oscillations, and therefore subsequent optical pulses, in relation to a round trip time of flight of said collected optical energy between said apparatus and said target; and

using said round trip time of flight to calculate said distance between said apparatus and said target.

6. (original) A method of determining a distance between a reference point and a target using a laser oscillator, comprising:

using a laser oscillator located at said reference point to generate relaxation oscillations that in turn cause a plurality of optical pulses to be generated at a controlled repetition rate;

directing said optical pulses at a target located at an unknown distance from said laser oscillator;

adjusting a power of a laser pump used with said laser oscillator to thus vary a frequency of said relaxation oscillations, and thus vary a frequency of said optical pulses; and

detecting when a received optical pulse reflected from said target has seeded a pump cavity of said laser oscillator and caused a subsequent, seeded optical pulse to be generated by said laser oscillator; and

when said subsequent, seeded optical pulse is generated, locking a period of each subsequently generated relaxation oscillation;

using a period of one of said subsequently generated relaxation oscillations to extrapolate a time of flight of said received optical pulse that caused said seeded optical pulse to be generated; and

using said time of flight to determine a distance between said laser oscillator and said target.